To: Tabor, Dennis[Tabor.Dennis@epa.gov]
From: Gullett, Brian
Sent: Fri 9/23/2016 9:07:21 PM
Subject: FW: Flyer Sampling at RAAP Questions

Dennis,

Please look over this list of questions. Primarily on method-specific questions, I'd appreciate any insights you might have.

Thanks!

Brian

From: Scott, Ashby (DEQ) [mailto:Ashby.Scott@deq.virginia.gov]
Sent: Friday, September 23, 2016 4:55 PM
To: Gullett, Brian <Gullett.Brian@epa.gov>
Cc: Sonal.Iyer@deq.virginia.gov
Subject: Flyer Sampling at RAAP Questions

Dr. Gullett,

Hope you're doing well today. Our risk assessor, Ms. Sonal Iyer, reviewed the QAPP and had some questions she'd like to discuss with you when we meet at Radford on Tuesday, time permitting of course. These aren't formal comments on the QAPP by DEQ by any means but Sonal wanted to get some clarification from you since the data produced from the sampling will be used in the risk assessment and air modeling components of the renewal process for the OBG's permit. Below are Sonal's questions regarding the QAPP:

1. Table 3.2: Why will the PCDD/PCDF analysis only be conducted for the skid burn and not for the propellant burn as well?

2. Table 3-3:

a. This table does not specific hex and trivalent chromium but the analysis will be conducted

for each species, correct?

b. This table states that oxidized mercury will be measured. For a risk assessment elemental mercury and speciation is normally performed. How will oxidized mercury data relate to elemental Hg during the analysis?

3. A table containing complete list of analytes, including nitroglycerine, other nitro-aromatics and derivatives/degradation products, and their detection limits would be very helpful.

4. Will all energetics identified in the current permit be sampled?

5. Section 3.4. Sampling: ". Hence, the full suite of analytes can only be collected with both Kolibris and with variations in each one. In addition, some samples, such as the PCDDs/PCDFs and energetics, are trace and will require composite samples comprised of emission sampling from plumes of multiple burns. " I don't fully understand exactly how the sampling will be conducted?

6. Table 3-5: So, if I understand this correctly all the analytes are not going to be sampled evenly:

a. NC, NG/nitroaromatics, PCDD/PCDF will be sampled only once for each type of burn-representing 3 or 5 pans

b. Chrome 6 will be sampled twice for propellant but only once for skid

c. VOC will be sampled twice for Propellant burn twice but only once for skid

d. HCL/Perchorate will be sampled only once and only for skid burn and not sampled for propellant burn

e. PM2.5/metals will be analyzed twice for both, skid and propellants burn

f. For PM2.5/Element and Chromium 3/6: Which samples will be taken during 1st half of the burn and which will be taken in the second half and what's the rationale for this- I am specifically interesting in knowing how this approach captures maximum emission?

Why such difference and more importantly- When propellant tis not tested how will emission factor be developed so that it will be applicable to both type of burn? And for burns that have only one sampling round, how reliable (precision, accuracy etc.) will this emission factor be? This is especially important because the types of wastes treated at different times are different in composition and the one-time testing scenario may not capture the worst case emission scenario.

7. What does this statement mean in terms of actual sampling? "Separate energetics samples will be used for N-based energetics due to concerns related to sample "dilution" and method detection limits."

8. The QAPP says that initially the testing will start at conservative distance. I am guessing this means that as the test progresses the drone may move closer to the pan. Since the burns are so quick, how will this distance adjustment affect sample collected and other quality qualifiers?

9. Section 4.3. VOCs: The concentrations are not expected to be high but if composite sampling will be done, how will breakthrough of the cartridge avoided?

10. For nitroglycerine why SW-846 Test Method 8332 will not be used?

11. Why will method 6850 not be used for perchlorate?

12. Section 4.7.Emission Factor Calculations: This section talks about residence time of 1.7

minutes and 10 minutes. Both these, especially 10 minutes seems long for OB burns. How will the desired time be achieved? As seen in comment 9 above, some of the analytes will be sampled only once.

13. Section 5. 5. Data Analysis, Interpretation, and Management: How is the value of ER_i obtained? And what is Carbon emission species '

'j'? Is it the higher of CO and CO2?

Sorry for the essay but hopefully we'll have time to discuss her questions when we see you on Tuesday. Hope you have a great weekend!

Thanks,

Ashby

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